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FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER LLP 901 NEW YORK AVENUE, NW WASHINGTON, DC 20001-4413			EXAMINER FAN, HUA	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/568,688	Applicant(s) COVINO ET AL.	
	Examiner HUA FAN	Art Unit 2456	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 August 2009 and 10 December 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 7, 37, 39-49, 52-54, 56-66, 69, 70 and 72 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 7, 37, 39-49, 52-54, 56-66, 69, 70 and 72 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 August 2009 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This office action is in response to amendment/reconsideration filed 8/19/2009 and amended on 12/10/2010, the amendment/reconsideration has been considered. Claims 37, 39-49, 52-54, 56-66, 69-70 and 72-75 are pending for examination, the rejection cited as stated below.

Response to Arguments

2. Applicant's arguments filed on 8/19/2009 have been fully considered but they are not persuasive. In the remarks, applicant argued in substance

(a) (on pages 15-16) that the amended claims 37 and 72 overcome the 101 rejection set forth in the prior office action (dated 5/19/2009).

(b) (on page 17) that the amended claims 37-45 overcomes the 112 rejection set forth in the prior office action;

(c) (on page 19, paragraph 2 to page 20, paragraph 1 with respect to claim 37) that Barkai US in view of Barkai EP does not teach "wherein at least one of the process executors receives instruction information, the at least one process executor being apt to modify its respective function based on the received instruction information, thereby changing the operation sequence of the at least one process executor and the base layer";

(d) (on page 20, paragraph 2 to page 21, paragraph 1 with respect to independent claim 37) that Barkai US in view of Barkai EP does not teach "all FCAPS functionalities and therefore being movable among, not merely hosted by, different machines";

(e) (on page 21, paragraph 2 to page 22, paragraph 1 with respect to independent claim 37) that Barkai US in view of Barkai EP does not teach "perform respective functions based on respective instruction information provided to them...[form] a database...storing said instruction

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information”, and “being arranged for distributing said instruction information from said database to said layers”;

(f) (on pages 22 -23) with respect to claims 54, 72, 75 similarly to arguments presented for claim 1.

As to point (a), in an effort to overcome the 101 rejection, the applicant amended claims 37 and 73 to include “a system architecture resident on a computer-readable storage medium” and “a computer program product resident on a computer-readable medium” respectively. However, as indicated in the Objection to Specification and 112 rejections below, the newly introduced terms such as “computer-readable storage medium” and “computer-readable medium” are not defined in the specification; therefore the scopes of the amended limitations cannot be determined as to whether they comprise transitory media. For the sake of examination, the examination presumes the claimed terms comprise both “non-transitory” and “transitory” media. As a result, the 101 rejection is maintained.

As to point (b), the examiner acknowledges that amended claims overcomes the prior 112 rejection since the limitation in question has been deleted. It is to be noted that, however, the amended claims introduces new ground of 112 rejection as detailed in the rejection section below.

As to point (c), this limitation has been deleted therefore the argument is moot.

As to point (d), it is to be noted that although the examiner cited reference for all types of FCAPS functionalities, the claimed language does not require all types of functionalities, in light of the limitation “FCAPS (Fault, Configuration, Accounting, Performance, Security) functionalities”. Since there is no "and" before ", Security”, the examiner interprets as “any of

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the FCAPS functionalities”. As to the argument regarding "being movable among, not merely hosted by, different machines”, it is to be noted that “agents” are software entities, therefore are movable to different machines. Since it is not clear what “different machines” are specifically referred to in this limitation, the examiner uses the broad interpretation of “any different machines. The applicant is suggested to clarify the term "different machines".

As to point (e), the argument is toward the newly added limitation (broader scope than the cancelled claim 51 in that "layers” instead of “components” are now claimed), see corresponding rejection made in this action below).

As to point (f), see examiner’s response to arguments above regarding claim 1.

Any remark regarding limitations not claimed is not being considered by examiner.

Specification

3. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: Claims 37, 39-49, 52-53 and 73 claim "a system architecture resident on a computer-readable storage medium"; however, "computer-readable storage medium" is not defined or exemplified in the specification. Similarly, claim 72 claims “a computer program product resident on a computer-readable medium” where "computer-readable medium" is not defined or exemplified in the specification. No new matter should be entered.

Claim Rejections - 35 USC § 101

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

The USPTO “Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility” (Official Gazette notice of 22 November 2005), Annex IV, reads as follows:

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Determining whether the claim falls within one of the four enumerated categories of patentable subject matter recited in 35 U.S.C. 101 (i.e., process, machine, manufacture, or composition of matter) does not end the analysis because claims directed to nothing more than abstract ideas (such as mathematical algorithms), natural phenomena, and laws of nature are not eligible for patent protection. *Diehr*, 450 U.S. at 185, 209 USPQ at 7; accord, e.g., *Chakrabarty*, 447 U.S. at 309, 206 USPQ at 197; *Parker v. Flook*, 437 U.S. 584, 589, 198 USPQ 193, 197 (1978); *Benson*, 409 U.S. at 67-68, 175 USPQ at 675; *Funk*, 333 U.S. at 130, 76 USPQ at 281. "A principle, in the abstract, is a fundamental truth; an original cause; a motive; these cannot be patented, as no one can claim in either of them an exclusive right." *Le Roy*, 55 U.S. (14 How.) at 175. Instead, such "manifestations of laws of nature" are "part of the storehouse of knowledge," "free to all men and reserved exclusively to none." *Funk*, 333 U.S. at 130, 76 USPQ at 281.

Descriptive material can be characterized as either "functional descriptive material" or "nonfunctional descriptive material." In this context, "functional descriptive material" consists of data structures and computer programs which impart functionality when employed as a computer component. (The definition of "data structure" is "a physical or logical relationship among data elements, designed to support specific data manipulation functions." *The New IEEE Standard Dictionary of Electrical and Electronics Terms* 308 (5th ed. 1993).) "Nonfunctional descriptive material" includes but is not limited to music, literary works and a compilation or mere arrangement of data.

When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare *In re Lowry*, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994) (claim to data structure stored on a computer readable medium that increases computer efficiency held statutory) and *Warmerdam*, 33 F.3d at 1360-61, 31 USPQ2d at 1759 (claim to computer having a specific data structure stored in memory held statutory product-by-process claim) with *Warmerdam*, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure per se held nonstatutory).

In contrast, a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program's functionality to be realized, and is thus statutory. See *Lowry*, 32 F.3d at 1583-84, 32 USPQ2d at 1035.

5. Claims 37, 39-49, 52-53 and 72-73 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter as follows. In an attempt to overcome the 101 rejection set forth in the prior office action (dated 5/19/2009), the applicant amended claims 37 and 73 to include "a system architecture resident on a computer-readable storage medium" and "a computer program product resident on a computer-readable medium" respectively. However, as indicated in the Objection to Specification and 112 rejections, the newly introduced terms such as "computer-readable storage medium" and "computer-readable medium" are not defined in the specification; therefore the scopes of the amended limitations cannot be determined as to whether they comprise transitory media. For the sake of examination, the examiner uses broad interpretation and presumes the claimed terms comprise both "non-

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transitory” and “transitory” media. Since “transitory” media is not statutory, the 101 rejection is maintained

Claim Rejections - 35 USC § 112

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claims 37, 39-49, 52-53 and 72-73 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The independent claims 37 and 72 introduces new limitations “resident on a computer-readable storage medium” and “resident on a computer-readable medium”; however, neither of these limitations find support in the originally filed application.

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 37, 39-49, 52-53 and 72-73 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The newly introduced terms such as “computer-readable storage medium” and “computer-readable medium” are not defined in the specification; therefore the scopes of the amended limitations cannot be determined. For the sake of examination, the examiner uses the broad interpretation and presumes the claimed terms comprise both “non-transitory” and “transitory” media.

Claim Rejections - 35 USC § 103

10. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

11. Claims 37-74 are rejected under 35 U.S.C. 103(a) as unpatentable over Barkai et al (US publication 2002/0032769, hereafter Barkai_US), in view of Barkai et al (EP 1150454, hereafter Barkai_EP).

As to claim 37, Barkai_US disclose a system architecture for managing a communication network (abstract) comprising network equipment (figure 3, components 33-34), said equipment having associated control interfaces (figure 5; interface between NEs and warehouse tier 52), the architecture comprising:

a base layer (figure 3, 5: warehouse tier 52) for proxying said interfaces and decoupling said interfaces from management functions ([0057] – [0067]); and

a support layer superposed to said base layer and comprising a plurality of agents (figure 3-5, agent tier 50 is superposed to warehouse tier 52; figure 5, agent tier 50 comprises a plurality of agents, “Provider Agent”, “Subscriber Agent”, “Device Agent”) co-ordinating operation of said base layer in order to support distributed management functionalities (figure 3 and 5; [0085]; [0060], “agent employ the message queue 72”, which is in warehouse Tier, i.e. base layer, “to transmit messages...provides message bus services throughout the distributed systems”; [0067], for device components, which is part of agent layer, “both peer and parent-child relationships are used during network management operations to provide for the intelligent collection of data and for the control of network elements”, which indicates agents coordinate base layer),

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wherein said distributed management functionalities include FCAPS (Fault ([0049], “fault”; [0062], “audit log...reporting software events”), Configuration ([0051]-[0052];[0034]-[0036]; [0054]-[0055], configuration information is gathered through both "NE translator" and one of the "Collector"s; [0031]; [0045]; [0048]), Accounting ([0031]: billing), Performance ([0031]; [0036]-[0037]; [0045]), Security (claim 3; also SNMP protocol itself provides security such as using public/private community therefore those proxy modules that need to send SNMP request to SNMP collector also supports security, such as “NE translator” which is implied) functionalities. It is to be noted that both Accounting and Performance that is supported by the network management necessarily relies on statistics data gathered from network elements therefore those proxy modules such as “NE translator” and “SNMP collector” that are used to collect data from network elements support such functionalities. It is to be noted that although the examiner cited reference for all types of FCAPS functionalities, the claimed language does not require all types of functionalities, in light of the limitation “FCAPS (Fault, Configuration, Accounting, Performance, Security) functionalities”. Since there is no "and" before ", Security”, the examiner interprets as any one of the FCAPS functionalities)

wherein said agents are hosted on different machines ([0059]: “distributed repository”), said agents being movable among different machines ("agents" are software entities, therefore are movable to different machines. Since it is not clear what “different machines” are specifically referred to in this limitation, the examiner uses the broad interpretation of “any different machines”. The applicant is suggested to clarify the term "different machines").

wherein said layers are adapted to perform respective functions based on respective instruction information provided to them and a database is provided storing said instruction

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information, the architecture being arranged for distributing said instruction information from said database to said layers (For base layer: [0053], “collect data from the network elements...a registry 63 that stores registration data”; [0054], “network element data is preferably used by the investigation manager to select and then configure device components. The translation component responds by translating the requested specific data collection method...by communicating with the warehouse tier 52 using an associated translation component”. For support layer: [0057], “the warehouse tier 52 includes a network element translator, a database translator 68”; [0058], “maps agent functions to network element functions...the database translator 68 provides an interface for accessing database services...receives request for the storage and retrieval of management unit Information in the form of object data...interacts with the components via the message queue”. In addition, although the examiner cited above reference to explicitly teach the limitation, this limitation can be taught inherently since these layers are constructed as software entities which inherently require receiving instruction information provided to them by a processor in order to perform any functions, and the instructions have to be stored in a database in a memory. The applicant is suggested to amend the claim to clarify).

Barkai_US does not expressly disclose said base layer comprising distributed process executors to execute in a distributed manner processes concerning management of said network, each process executor comprising at least one of a workflow engine, a rule engine, and a combination thereof. Barkai_EP discloses a network management layer comprising distributed process executors to execute in a distributed manner processes concerning management of said network, each process executor comprising a workflow engine (figure 3; [0042]-[0044], device

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components (DCs) are equivalent to distributed process executors comprising workflow engine, see figure 3 flowchart for workflow processed by device components (DCs); [0044], lines 20-25, “distributed algorithm”; [0042], lines 42-46 for network management. Examiner interprets the terms “workflow” according to specification page 10, lines 20-30, “a work flow is essentially full or partial automation...information or tasks are passed from one participant to another for action, according to a set of procedural rules...can be represented through a flow chart with a sequence of tasks and temporal and logical dependencies between tasks...”, “workflow engine” according to specification page 10, line 31 – page 11, line 34, “workflow engine is the component in a workflow automation program that possesses all the information related to the procedures, steps in a procedure, and rules for each step”, “process executor” according to specification [0097], “Process executors for any layer are intended to be a workflow (a flowchart), a rule engine, or a combination of the two”. As disclosed by Barkai_EP, message (information) is passed from one participant (DC) to another participant (another DC) for action (see figure 3, component 320, “Perform action at DC level of responsibility”), according to a set of procedural rules (as indicated in the flow chart, such as checking whether message is required by parent DC, action required within DC, etc)).

At the time of invention, it would have been obvious to a person of ordinary skill in the art to combine the method disclosed by Barkai_US with the method disclosed by Barkai_EP regarding a network management layer comprising distributed process executors to execute in a distributed manner processes concerning management of said network, each process executor comprising a workflow engine. The suggestion/motivation of the combination would have been to provide a system-wide top-down flow with each DC performing its independent computations

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which collectively achieve the external request (Barkai_EP, [0044], lines 4-7) and to provide a distribute algorithm in a bottom-up flow by propagating to other DCs which change their state and/or perform their part in the distributed system (Barkai_EP, col. 8, lines 20-25).

As to claim 39, Barkai_US-Barkai_EP discloses the architecture of claim 37, wherein said base layer comprises: a sub-layer of protocol adapters for interfacing a set of network equipment offering a given protocol (Barkai_US, figure 5: component 75, "SNMP collector"); and a sub-layer of resource proxy modules (Barkai_US, figure 5: "SNMP collector", "Instrumentation Manager", and "NE Translator"), each said proxy module providing a representation of the configuration of given network equipment according to a defined information model (Barkai_US, figure 5, "NE Translator", "DB Translator", "DS Translator", "Audit Log", "Instrumentation Manager"; "SNMP collector"; [0048]; [0057]-[0065]; [0063], note: SNMP uses MIB (management information base)).

As to claim 40, Barkai_US-Barkai_EP discloses the architecture of claim 39, wherein said resource proxy modules are configured for aligning said representation to the network of given network equipment by at least one operation selected from the group of: performing all the management actions on said network by invoking operation through at least one associate protocol adapter (Barkai_US, figure 5: 'instrumentation manager'; "SNMP collector"; [0063]); receiving at said resource proxy modules all the notifications sent by said network equipment (Barkai_US, figure 5: "Audit log", and "SNMP collector" by SNMP commands such as "trap" [0062]-[0063]); and performing a periodical verification of alignment between the representation of the network equipment and said network equipment (Barkai_US, figure 5: "SNMP collector" by SNMP commands, such as "get"; [0063] and [0054]).

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As to claim 41, Barkai_US-Barkai_EP discloses the architecture of claim 40, wherein said resource proxy modules are configured for enrichment with element manager information (Barkai_US, [0063] and [0054]).

As to claim 42, Barkai_US-Barkai_EP discloses the architecture of claim 40, wherein said resource proxy modules are configured for running processes using said process executor (Barkai_EP, figure 3; [0043]-[0044]).

As to claim 43, Barkai_US-Barkai_EP disclose the architecture of claim 40, wherein said resource proxy modules are configured for interacting directly with one another in an interworking relationship (Barkai_US, figure 5, “NE translator” interacts directly with “Instrumentation manager”; [0063]; [0090], “instrumentation manager routes the request to an appropriate collector”).

As to claim 44, Barkai_US-Barkai_EP discloses the architecture of claim 37, wherein said agents in said community are configured for running vendor and technology independent services (Barkai_US, [0060]).

As to claim 45, Barkai_US-Barkai_EP discloses the architecture of claim 37, comprising at least one manager application (Barkai_US, [0049] – [0050]) configured for performing functions selected from the group of: managing distribution of processes between said base layer and said support layer; managing distribution of information models between said base layer and said support layer (Barkai_US, [0049]-[0050]; [0054]); monitoring the state of the architecture on the basis of information provided by said agents in said community (Barkai_US, [0049]-[0050]; [0054]; [0061]-[0062]); interacting with external systems (Barkai_US, [0049]-[0050]; [0060]); and executing management processes (Barkai_US, [0050]).

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As to claim 46, Barkai_US-Barkai_EP discloses the architecture of claim 45, wherein said at least one manager application comprises a separated, additional upper layer in said architecture (Barkai_US, [0049]-[0050]).

As to claim 47, Barkai_US-Barkai_EP discloses the architecture of claim 45, wherein said at least one manager application is at least partly integrated to said support layer (Barkai_US, [0054]).

As to claim 48, Barkai_US does not expressly disclose all said layers in said architecture include process executors. Barkai et al (EP) discloses network management layer (agent layer) includes process executor (Barkai_EP, device component, see figure 3; [0043]-[0044]).

At the time of invention, it would have been obvious to a person of ordinary skill in the art to combine the architecture disclosed by Barkai_US with the method disclosed by Barkai_EP regarding network management layer includes process executor. See similar motivation in claim 37 rejection.

As to claim 49, Barkai_US-Barkai_EP discloses the architecture of claim 48, wherein each of said process executors in each of said layers comprises a workflow (Barkai_EP, figure 3; [0043]-[0044]).

As to claim 52, Barkai_US-Barkai_EP discloses the architecture of claim 51, wherein said instruction information comprises at least one of:

process definitions comprising at least one of workflows and rules; and data model definitions (Barkai_US, [0055]; Barkai_EP, figure 3, [0043]-[0044]).

As to claim 53, Barkai_US-Barkai_EP discloses the architecture of claim 51, comprising at least one manager application configured for managing distribution of information models

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between said base layer and said support layer, said data base being associated with said at least one manager application (Barkai_US, [0054]; [0058]).

Claims (54, 56-66 and 69-70) are method claims corresponding to system architecture claims (37, 39-49, and 52-53). Therefore they have been analyzed and rejected based upon system claims respectively.

Claim 72 is a computer program product claim similar to method claim 54. Therefore it has been analyzed and rejected based upon the method claim.

As to claim 73, see similar rejection and reasoning/citations in rejection to claim 37.

As to claim 74, see similar rejection and reasoning/citations in rejection to claim 37.

As to claim 75, see similar rejections to claims 37, 39-49, 52, 53, and 73. Barkai-US discloses a network including network equipments (figure 5).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HUA FAN whose telephone number is (571) 270-5311. The examiner can normally be reached on M-F 9am-6pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rupal Dharia can be reached on (571) 272-3880. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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2400

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